

Claims

- [c1] 1. An image display device, comprising:
a plurality of signal lines for supplying display signals;
a plurality of scanning lines for supplying scanning signals;
first and second pixel electrodes to which said display signals are supplied from specified one of said signal lines;
a first switching element disposed between the specified one of said signal lines and said first pixel electrode, said first switching element having a gate electrode for controlling supply of said display signals;
a second switching element disposed between said gate electrode of said first switching element and specified one of said scanning lines; and
a third switching element connected to the specified one of said signal lines, the third switching element being for controlling supply of said display signals to said second pixel electrode.
- [c2] 2. The image display device according to claim 1,
wherein a scanning line having nothing to do with drive of said first and second pixel electrodes is formed, a storage capacitor is formed between said scanning line and each of said first and second pixel electrodes.
- [c3] 3. The image display device according to claim 1,
wherein a storage capacitor is formed between a specified scanning line and each of said first and second pixel electrodes, said specified scanning line being disposed at a front stage of said first and second pixel electrodes.
- [c4] 4. An image display device comprising:
a signal line for supplying a display signal;
first and second pixel electrodes arranged so as to interpose said signal line therebetween;
a first switching element connected to said signal line, the first switching element being for controlling supply of said display signal to said first pixel electrode;
a second switching element connected to said first switching element;
a third switching element connected to said signal line, the third switching

element being for controlling supply of said display signals to said second pixel electrode;

a first scanning line for supplying a scanning signal to said second and third switching elements; and

a second scanning line for supplying a scanning signal to said first switching element.

[c5] 5.The image display device according to claim 4,
wherein said first scanning line is disposed at a rear stage of said first and second pixel electrodes, and
said second scanning line is disposed at a rear stage of said first scanning line.

[c6] 6.The image display device according to claim 4,
wherein a third scanning line is provided at a front stage of said first and second pixel electrodes, and
a storage capacitor is formed between said third scanning line and each of said first and second pixel electrodes.

[c7] 7.The image display device according to claim 4,
wherein said first switching element directly connects said first pixel electrode and said signal line.

[c8] 8.The image display device according to claim 4,
wherein said first scanning line is arranged at a front stage of said first and second pixel electrodes, and
said second scanning line is arranged at a rear stage of said first and second pixel electrodes.

[c9] 9.The image display device according to claim 4, further comprising:
a fourth switching element connected to said third switching element, the fourth switching element being supplied with a scanning signal from said second scanning line.

[c10] 10.An image display device, in which a plurality of signal lines for supplying display signals and a plurality of scanning lines for supplying scanning signals are arrayed in a matrix fashion, comprising:

first and second pixel electrodes arranged between a n -th scanning line and a $(n+1)$ -th scanning line (n : positive integer), the first and second pixel electrodes being supplied with a display signal from a specified signal line;
a first switching mechanism for permitting the display signal to pass therethrough when said $(n+1)$ -th scanning line and a $(n+m)$ -th scanning line (m : integer excluding 0 and 1) are simultaneously being selected; and
a second switching mechanism for permitting the display signal to pass through to said second pixel electrode when said $(n+1)$ -th scanning line is being selected.

[c11]

11.The image display device according to claim 10,
wherein a storage capacitor is formed between each of said first and second pixel electrodes and said n -th scanning line.

[c12]

12.The image display device according to claim 10,
wherein said first switching mechanism includes:
a first switching element connected to said specified signal line, the first switching element being driven by a scanning signal supplied from said $(n+1)$ -th scanning line; and
a second switching element connected to said first switching element, the second switching element being driven by a scanning signal supplied from said $(n+m)$ -th scanning line.

[c13]

13.An image display device comprising:
a plurality of signal lines for supplying display signals;
a plurality of scanning lines for supplying scanning signals;
a first pixel electrode arranged between a n -th scanning line (n : positive integer) and a $(n+1)$ -th scanning line, the first pixel electrode being connected to a specified signal line; and
a second pixel electrode connected to said specified signal line,
wherein said first pixel electrode is driven by a first scanning signal from the $(n+1)$ -th scanning line and by a second scanning signal from a $(n+m)$ -th scanning line (m : integer excluding 0 and 1), and
said second pixel electrode is driven by a scanning signal from said $(n+1)$ -th

scanning line.

[c14]

14. An image display apparatus, which arrays pixels in a matrix fashion composed of M rows and N columns (M and N: arbitrary positive integer) to form an image display section,
said image display apparatus comprising:
a signal line driving circuit for supplying display signals;
a scanning line driving circuit for supplying scanning signals;
a plurality of signal lines extending from said signal line driving circuit;
a plurality of scanning lines extending from said scanning line driving circuit;
first and second pixel electrodes arranged between a n-th scanning line (n: positive integer equal to N or less) and a (n+1)-th scanning line so as to be adjacent to each other with a specified signal line interposed therebetween;
a first switching element driven by a scanning signal from a (n+2)-th scanning line, the first switching element being for controlling supply of a display signal from said specified signal line to said first pixel electrode;
a second switching element driven by a scanning signal from said (n+1)-th scanning line, the second switching element being for controlling turning ON/OFF of said first switching element; and
a third switching element driven by a scanning signal from said (n+1)-th scanning line, the third switching element being for controlling supply of a display signal from said specified signal line to said second pixel electrode.

[c15]

15. The image display apparatus according to claim 14, further comprising:
a fourth switching element driven by the scanning signal from said (n+2)-th scanning line, the fourth switching element being for controlling turning ON/OFF of said third switching element.

[c16]

16. An image display apparatus, which arrays pixels in a matrix fashion composed of M rows and N columns (M and N: arbitrary positive integer) to form an image display section,
said image display apparatus comprising:
a signal line driving circuit for supplying display signals;
a scanning line driving circuit for supplying scanning signals;

a plurality of signal lines extending from said signal line driving circuit;
a plurality of scanning lines extending from said scanning line driving circuit;
first and second pixel electrodes arranged between a n -th scanning line (n : positive integer equal to N or less) and a $(n+1)$ -th scanning line so as to be adjacent to each other with a specified signal line interposed therebetween;
a first switching element driven by a scanning signal from said $(n+1)$ -th scanning line, the first switching element being for controlling supply of a display signal from said specified signal line to said first pixel electrode;
a second switching element driven by a scanning signal from a $(n+2)$ -th scanning line, the second switching element being arranged between said first switching element and said first pixel electrode; and
a third switching element driven by the scanning signal from said $(n+1)$ -th scanning line, the third switching element being for controlling supply of a display signal from said specified signal line to said second pixel electrode.

[c17]

17.The image display apparatus according to claim 16, wherein a storage capacitor is formed between each of said first and second pixel electrodes and said n -th scanning line.

[c18]

18.An image display apparatus, which arrays pixels in a matrix fashion composed of M rows and N columns (M and N : arbitrary positive integer) to form an image display section,
said image display apparatus comprising:
a signal line driving circuit for supplying display signals;
a scanning line driving circuit for supplying scanning signals;
a plurality of signal lines extending from said signal line driving circuit;
a plurality of scanning lines extending from said scanning line driving circuit;
first, second and third pixel electrodes arranged between a n -th scanning line (n : positive integer equal to N or less) and a $(n+1)$ -th scanning line, the first, second and third pixel electrodes being supplied with a display signal from a specified signal line;
a first switching element driven by a scanning signal from a $(n+3)$ -th scanning line, the first switching element being for controlling supply of the display signal from said specified signal line to said first pixel electrode;

a second switching element driven by a scanning signal from said (n+1)-th scanning line, the second switching element being for controlling turning ON/OFF of said first switching element;

a third switching element driven by the scanning signal from said (n+1)-th scanning line, the third switching element being for controlling supply of the display signal from said specified signal line to said second pixel electrode;

a fourth switching element driven by a scanning signal from a (n+2)-th scanning line, the fourth switching element being for controlling supply of the display signal from said specified signal line to said third pixel electrode; and

a fifth switching element driven by the scanning signal from said (n+1)-th scanning line, the fifth switching element being for controlling turning ON/OFF of said fourth switching element.

[c19]

19.The image display apparatus according to claim 18, wherein said signal line driving circuit sequentially supplies said specified signal line with a display signal having a potential to be given to said first pixel electrode, a display signal having a potential to be given to said second pixel electrode, and a display signal having a potential to be given to said third pixel electrode.

[c20]

20.An image display apparatus, which arrays pixels in a matrix fashion composed of M rows and N columns (M and N: arbitrary positive integer) to form an image display section,

said image display apparatus comprising:

a signal line driving circuit for supplying display signals;

a scanning line driving circuit for supplying scanning signals;

a plurality of signal lines extending from said signal line driving circuit;

a plurality of scanning lines extending from said scanning line driving circuit;

and

first, second and third pixel electrodes arrayed on the same display line, the first, second and third pixel electrodes being supplied with display signals from a specified signal line,

wherein said first, second and third pixel electrodes are driven by scanning signals from different scanning lines.

[c21]

21. An image display apparatus, which arrays pixels in a matrix fashion composed of M rows and N columns (M and N: arbitrary positive integer) to form an image display section,
said image display apparatus comprising:
a signal line driving circuit for supplying display signals;
a scanning line driving circuit for supplying scanning signals;
a plurality of signal lines extending from said signal line driving circuit;
a plurality of scanning lines extending from said scanning line driving circuit;
first and second pixel electrodes arranged between a n-th scanning line (n: positive integer equal to N or less) and a (n+1)-th scanning line so as to be adjacent to each other with a specified signal line interposed therebetween;
a first switching element driven by a scanning signal from said (n+1)-th scanning line, the first switching element being for controlling supply of a display signal from said specified signal line to said first pixel electrode;
a second switching element driven by a scanning signal from said n-th scanning line, the second switching element being for controlling turning ON/OFF of said first switching element; and
a third switching element driven by the scanning signal from said n-th scanning line, the third switching element being for controlling supply of the display signal from said specified signal line to said second pixel electrode.

[c22]

22. An image display apparatus, which arrays pixels in a matrix fashion composed of M rows and N columns (M and N: arbitrary positive integer) to form an image display section,
said image display apparatus comprising:
a signal line driving circuit for supplying display signals;
a scanning line driving circuit for supplying scanning signals;
a plurality of signal lines extending from said signal line driving circuit;
a plurality of scanning lines extending from said scanning line driving circuit;
first and second pixel electrodes arranged between a n-th scanning line (n: positive integer equal to N or less) and a (n+1)-th scanning line so as to be adjacent to each other with a specified signal line interposed therebetween;
a first switching element driven by a scanning signal from said (n+2)-th

scanning line, the first switching element being for controlling supply of a display signal from said specified signal line to said first pixel electrode;
a second switching element driven by a scanning signal from said (n+1)-th scanning line, the second switching element being for controlling turning ON/OFF of said first switching element;
a third switching element driven by the scanning signal from said (n+1)-th scanning line, the third switching element being for controlling supply of the display signal from said specified signal line to said second pixel electrode;
a fourth switching element driven by the scanning signal from said (n+2)-th scanning line, the fourth switching element being for controlling turning ON/OFF of said first switching element; and
a charge capacitor connected to said third switching element, the charge capacitor being capable of holding charges given to said third switching element.

[c23]

23. An image display apparatus, comprising:
a plurality of signal lines for supplying display signals;
a plurality of scanning lines for supplying scanning signals;
a pixel electrode supplied with a display signal from a specified signal line;
a storage capacitor arranged between said pixel electrode and one of said scanning lines adjacent to said pixel electrode;
a first switching element connected to said pixel electrode; and
a second switching element for controlling turning ON/OFF of said first switching element.

[c24]

24. An image display apparatus, comprising:
a plurality of signal lines for supplying display signals;
a plurality of scanning lines for supplying scanning signals;
a pixel electrode supplied with a display signal from a specified signal line; and
a storage capacitor arranged between said pixel electrode and one of said scanning lines adjacent to said pixel electrode,
wherein said pixel electrode is driven by scanning signals supplied from at least two scanning lines excluding the one of said scanning lines.

[c25]

25.A method of driving an image display device which comprises: a plurality of signal lines for supplying display signals; a plurality of scanning lines for supplying scanning signals; a first pixel electrode arranged between a n -th scanning line and a $(n+1)$ -th scanning line (n : arbitrary positive integer), the first pixel electrode being connected to a specified signal line; and a second pixel electrode connected to said specified signal line,

the method comprising the steps of:

supplying a first display signal to said specified signal line, the first display signal having a first potential to be given to said first pixel electrode, for a period from the time when potentials of said $(n+1)$ -th scanning line and a $(n+m)$ -th scanning line (m : integer excluding 0 and 1) become equal to a selection potential to the time when the potential of one of said $(n+1)$ -th scanning line and said $(n+m)$ -th scanning line becomes equal to a non-selection potential, thus giving said first potential to said first and second pixel electrodes; and

supplying a second display signal to said specified signal line, the second display signal having a second potential to be given to said second pixel electrode, after the potential of one of said $(n+1)$ -th scanning line and said $(n+m)$ -th scanning line becomes equal to the non-selection potential, thus giving said second potential to said second pixel electrode.